

Unit #3 - Quadratic Relations Assignment

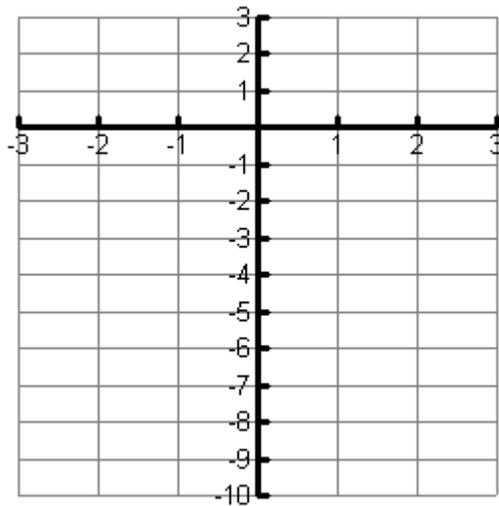
K/U	App	Comm	Think
17	7	5	12

Name: _____

Date: _____

1. Complete the tables of values, plot the points on the graph and fill in the blanks for the given relation. [7 KU]

x	$y = -2x^2 + 3x$	(x, y)
-1		
0		
1		
2		
3		



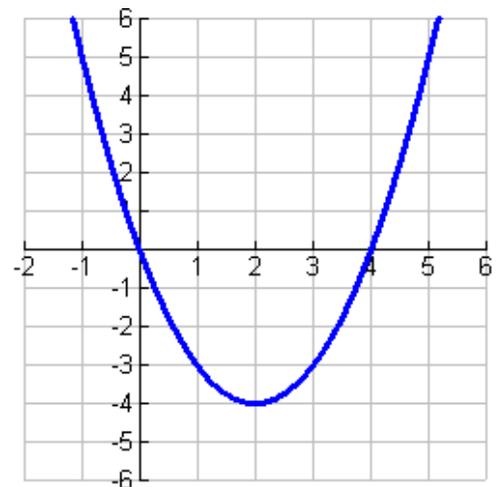
I drew a _____ of best fit.

This relation is _____.

2. For the given parabola below, identify;

[5 KU]

- a) the coordinates of the vertex: _____
- b) the equation of the axis of symmetry: _____
- c) the y-intercept: _____
- d) the maximum or minimum value: _____
- e) the x-intercept(s): _____



MFM 2P1

3. Complete the following table and circle the type of relation.

[5 KU]

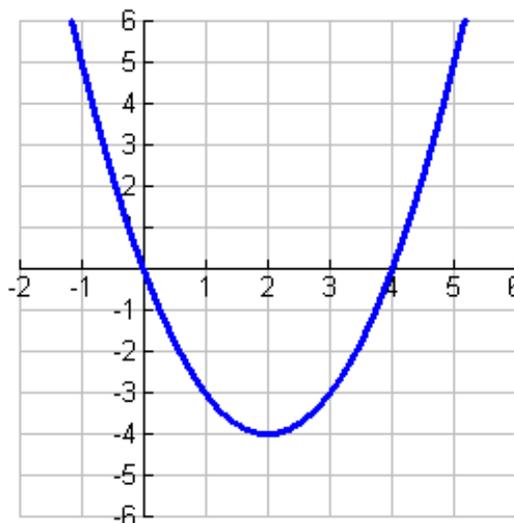
x	y	First Differences	Second Differences
-2	0		
-1	1		
0	4		
1	9		
2	15		

Are the first differences equal? **YES / NO**
 Are the second differences equal? **YES / NO**
 Then the function is... **LINEAR / QUADRATIC / NEITHER**

4.

[7 APP]

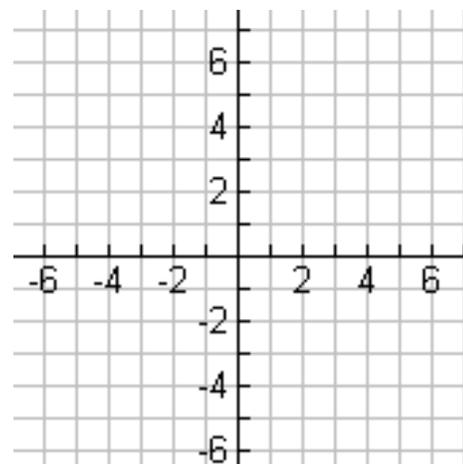
How many x-intercepts are there?	
What are the values of the x-intercepts?	
What is the axis of symmetry?	
Is there a maximum or minimum?	
What is the max/min?	
What is the vertex?	
What is the y-intercept?	



5. a) Does a parabola **HAVE** to have **two x-intercepts**? Explain your answer.

[5 COMM]

b) If your answer is NO, sketch an example of a parabola that does not.



MFM 2P1

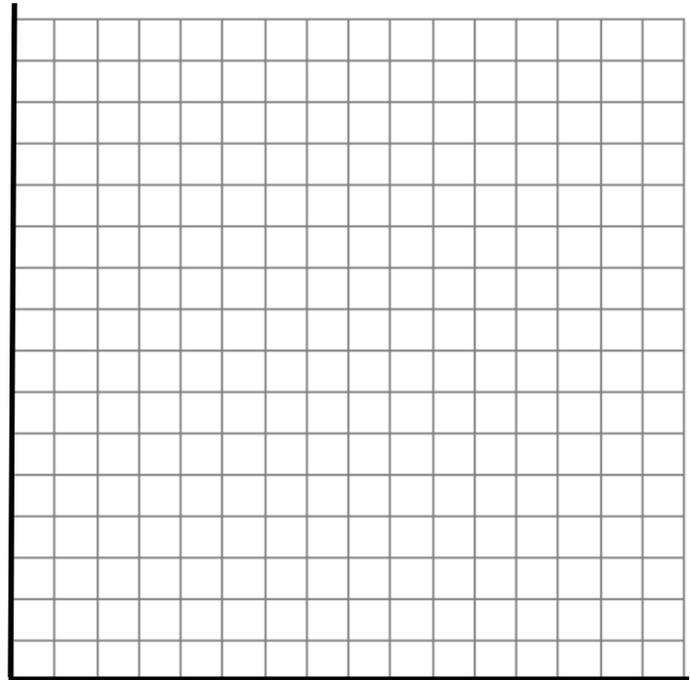
6. Tom Brady and Joe Montana are playing catch with a football. They notice that the football resembles a parabolic path. Joe determines the equation to be $y = -0.2x^2 + 4x$, where x is the number of seconds after Tom throws the ball and y is the height of the football in metres.

[7,5 THINK]

i) Complete the table of values and graph the parabola

EQUATION: $y = -0.2x^2 + 4x$

x	y
0	
2	
5	
8	
10	
12	
15	
18	
20	



ii) Answer the following questions

- b) At what *time* does Tom throw the ball to Joe? _____
- c) What is the maximum *height* the ball reaches? _____
- d) At what *time* does the ball reach the maximum? _____
- e) At what *time* does the ball reach the ground again? _____
- f) What is the *height* of the ball at 3 seconds? _____

MFM 2P1

KEN KEN BONUS ☺

Use the numbers 1-4 once per row and column.

If a number is in one box, just write that number in

(for example: the number 2 in the box, just write 2)

12×	2	6×	
	12×	1	
2÷		2÷	
		12×	

Quadratic Relations Word Sear EXTRAVAGANZA!!! ☺

Z	E	R	O	C	K	E	T	F	L	A	E	P	V	C
E	T	U	T	I	T	S	B	U	S	S	V	V	V	X
L	I	N	E	A	R	F	I	R	S	T	E	G	I	V
Z	G	U	C	V	U	B	K	S	K	Y	R	O	N	A
D	P	A	R	A	B	O	L	A	R	A	T	E	T	L
L	L	A	B	T	E	K	S	A	B	X	E	L	E	U
C	U	M	C	O	N	S	T	A	N	T	X	O	R	E
F	O	O	T	B	A	L	L	G	Y	A	R	G	C	N
Q	P	A	T	D	I	F	F	E	R	E	N	C	E	S
A	F	M	D	N	O	C	E	S	Z	A	C	Y	P	E
R	S	Y	M	M	E	T	R	Y	Y	Y	I	F	T	G
C	C	Y	R	B	M	A	X	I	M	U	M	S	F	N
H	S	X	W	M	U	M	I	N	I	M	N	I	F	A
C	I	T	A	R	D	A	U	Q	S	S	L	X	S	H
Y	J	D	H	N	O	I	T	A	L	E	R	A	D	C

- | | |
|------------|-------------|
| QUADRATIC | DIFFERENCES |
| RELATION | RATE |
| PARABOLA | CHANGE |
| AXIS | CONSTANT |
| SYMMETRY | FIRST |
| LINEAR | SECOND |
| INTERCEPT | VERTEX |
| VALUE | ARCH |
| SUBSTITUTE | FOOTBALL |
| MAXIMUM | ROCKET |
| MINIMUM | BASKETBALL |